from said received power control command a parameter representative of the quality with which the power control command is received at the first station; and controlling the power which the first station transmits signals based on the determination step.

Thus the quality with which the power control command itself is received is used unlike in the proposals discussed hereinbefore.

Preferably, in said determining step, the received value of said received power control command is determined as said parameter. It should be appreciated that the received power control value may differ from that which is transmitted due to the effects of the channel between the first and second stations. The received value may be the value after the decoding of the signal from the carrier wave but before the detection of individual power control bits transmitted to the first station by the second station.

Preferably, the method further comprising the steps of comparing said determined received value with a threshold value; determining the given value which was transmitted based on said comparing step; and in said controlling step controlling the power which the first station transmits signals based on the determined transmitted value. Thus the transmitted value is determined on the basis of the received value.

According to a second aspect of the present invention, there is provided a method of controlling the power with which a first station transmits signals to a plurality of second stations, comprising the steps of; transmitting from each of the second stations to the first station a power control command having a given value; receiving said power control commands at said first station; determining the received values of said received power control commands; combining the received values of said received power control commands; and controlling the power with which first station transmits to the second station based on said combined value.

It should be appreciated that in the third aspect of the present invention the actual received signal values can be used or the values which were determined to have been transmitted.

According to a third aspect of the present invention, there is provided a method of controlling the power with which a first station transmits signals to a second station, comprising the steps of; transmitting from the second station to the first station a plurality of power control commands; receiving said power control commands at said first station; determining the value of said received power control values; controlling the power with which the first station transmits to the second station based on a currently received power control command and at least one previously received power control command.

According to a fourth aspect of the present invention there is provided a first station which in use transmits signals to a second station, said first station comprising: means for receiving a power control command transmitted from said second station to said first station, said power control command being transmitted with a given value; determining means for determining from said received power control command a parameter representative of the quality with which the power control command is received at the first station; and control means for controlling the power which the first station transmits signals based on the determination carried out by said determining means.

According to a further aspect of the present invention there is provided a first station which in use transmits signals to a plurality of second stations, said first station comprising: means for receiving power control commands transmitted from said second stations to said first station, said power control commands being transmitted with given values; means for determining the received values of said received power control commands; means for combining the received values of said received power control commands; and means for controlling the power with which first station transmits to the second station

based on said combined value.

According to a further aspect of the present invention, there is provided a first station which in use transmits signals to a second station, said first station comprising: means for receiving power control commands transmitted from said second station to said first station; means for determining the values of said received power control values; and means for controlling the power with which the first station transmits to the second station based on a currently received power control command and at least one previously received power control command.

According to a further aspect of the present invention, there is provided a method for controlling the power which a first station transmits signals to a second station comprising the steps of: transmsmitting from the second station to the first station a power control command; receiving said power control command at the first station; determining, using a plurality of different methods, power control information from said received power control command; and controlling the power with which the first station transmits to the second station based on the determination step.

BRIEF DESCRIPTION OF DRAWINGS

For a better understanding of the present invention and as to how the same may be carried into effect, reference will now be made by way of example to the accompanying drawings in which:
Figure 1 shows a schematic diagram of part of a cellular telecommunications network incorporating base transceiver stations and mobile stations;
Figure 2 shows the threshold used in a first embodiment;
Figure 3 shows a schematic view of a second embodiment;
Figure 4 shows a schematic view of a third embodiment; and
Figures 5a to d show simulations of using the methods embodying the present invention.